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The impact of training on caregiver responsiveness

Carrie Lou Ota
Louisiana State University and Agricultural and Mechanical College

THE IMPACT OF TRAINING ON CAREGIVER RESPONSIVENESS

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ABSTRACT

This is an evaluation of observation-based experiences in child care in the state of Louisiana to help determine the importance of training and its impact on caregiver responsiveness. Infant and toddler child care caregivers were observed prior to and following a six-hour statewide training provided by Louisiana State University Cooperative Extension. The focus of the training was the *Right from Birth* series (Ramey & Ramey, 1999). Caregiver responsiveness to infants and toddlers was measured using a multiple baseline design. Observers examined both positive and negative caregiver behaviors which were categorized as either active or passive on the part of the caregiver. Findings indicted an increase in positive caregiver behaviors and a decrease in negative caregiver behaviors. These results support the importance of training programs and requirements of regulations for training of child care providers.

CHAPTER 1. INTRODUCTION

Justification

In 1925, there were 157 nursery schools nationwide. Early childhood teachers did not need training to be viewed effective because teaching was considered an inherent art (Eheart, 1987). Today, there are over 117, 053 regulated child care centers and at least 290,466 regulated family day care homes in the United States (NCCIC, 2004), and training is recognized as essential to the provision of quality day care (NAEYC, 1998). This growing number of children in non-parental care has heightened awareness about quality child care.

The importance of early childhood-related training and education has been demonstrated in prior research showing that classrooms tend to be rated higher on measures of global quality and caregiver sensitivity to children when caregivers have more training and education (Burchinal, Cryer, Clifford, & Howes, 2002; Howes, 1983; Phillips, 2000; Rhodes, & Hennessy, 2000). Researchers agree that when children are very young, early learning (e.g., language, social competence) occurs through interactive experiences. The quality of teacher-child interactions contributes substantially to the effects that early group care experiences have on children (Kontos & Wilcox-Herzog, 2003). Many early care providers have little to no specialized education in their profession, leading many to question the quality of young children's experiences in these group settings. These child care issues involving caregiver credentials, training, and group care experiences for young children have long been in debate (NAEYC, 1998).

Studies support the concept that caregivers with specialized training in child development are more interactive, helpful, talkative, playful, positive, and affectionate in their interactions (Snider & Fu, 1990). However, this research holds varying results concerning the most effective

type, length, and outcomes of caregiver specialized training and education (Arnett, 1986; Berk, 1985; Howes, 1983; NICHD, 1996; Howes, Whitebook, & Phillips, 1992). Results of a longitudinal study found that caregivers who attended a year-long training program displayed more positive, less punitive, and less detached relations with the children in their care as compared to non-trained caregivers (Arnett, 1986; Phillips, Lande, & Goldberg, 1990). Most early childhood educators agree that college-level preparation in early childhood or child development, with supervised experience working with young children, is an essential prerequisite for center staff (Barnett, 2003; Eheart, 1987; Howes 1983; NAEYC, 1986). Currently licensing requirements in only eight states require specialized training for preschool (4 year old) teachers (Eheart, 1987).

In the state of Louisiana, there are no pre-service training requirements for child care workers (Louisiana Department of Social Services, 2003). Teachers currently working in the child care field have only a minimal 12-hour yearly in-service requirement. The majority of child care teachers meet their in-service requirements through training workshops and on-site trainings provided by center administration.

Quality is affected by structural variables such as child-teacher ratios and the number of children in a classroom (Howes, 1997); quality also is impacted by teacher training and experience, and specific caregiving behaviors and interactions between teachers and children (Ackerman, 2003). These aspects of quality are more likely to be present in a classroom when the caregivers have received education and training specifically related to early child development (Ackerman, 2003; Whitebook, Howes, & Phillips, 1989).

The National Day Care Study Report (Ruopp, 1979) concluded that education and training should be required for those who provide care to young children. Ruopp further

suggested that states should make child care training available for all caregivers. In the state of Louisiana, the Louisiana Cooperative Extension Service (LCES) provides university outreach to citizens through informal and continuing education. These services seek to assist the state in improving the quality of child care across Louisiana through making training and education assessable for early caregivers of children. Research-based educational programs developed and provided for child caregivers and early childhood educators are designed to address developmentally appropriate practice and ultimately improve the quality of the care of children.

Improving the accessibility and quality of support and services for young children and their families remains an important challenge for states and communities across the country. Sixty percent of children under the age of five in the United States are in substandard child care (DeLapp, 2002). Over the past several years through initiatives such as No Child Left Behind, our federal administration has started to ask some direct questions related to services for young children: Do current programs work? Do they accomplish their goals? Are they spending effectively? Are we improving lives? Greater accountability is increasingly being demanded of early childhood and other public, non-profit, and partnership initiatives (DeLapp, 2002). Therefore, this study focuses on the effectiveness of a LCES training, described in terms of recommended practices when training adults and the relationship to caregiver responsiveness to infants and toddlers.

Statement of the Problem

Research has found that formal education has a great impact on the quality of caregiving in the classroom. Yet, other findings support specialized informal training for caregivers (Kaplan & Conn 1984; Snider & Fu, 1990). The majority of states require continuing training hours only for people working with young children. Therefore, the purpose of the present study

is to determine if a specialized intensive institute on infant and toddler development and appropriate responsive caregiving impacts the behaviors that caregivers display in their interactions with the children in their classroom. The problems in this study can best be expressed by the following questions:

1. What was the observed average of responsive behaviors prior to the training sessions?
2. Did the average of caregiver responsive behaviors increase during this study?
3. Did the average of caregiver non-responsive behaviors decrease during this study?

Limitations

1. Although the training was delivered throughout the state of Louisiana, for convenience, this study focused on eleven parishes: East Baton Rouge, Ascension, Livingston, Iberville, West Baton Rouge, Pointe Coupee, East and West Feliciana, Iberia, Lafayette, and Evangeline.
2. By design, this study was limited to caregivers working in a licensed child care center or family home with children under the age of 18 months.
3. Caregivers participating in this study were volunteers for the research and were registered for one of the three sessions of the *Right from Birth* Training Series. Every participant in the training was not included in the study.
4. Observations of caregiver behaviors were assumed to be reflective of the overall daily caregiver behavior.

Assumptions

1. Based on previous research on caregiver responsiveness contributing to positive outcomes for young children, it was assumed that responsive caregiver interactions are desirable.

2. The sample for this study was representative of the general population of infant and toddler caregivers in licensed child care centers within the selected parishes.

Definition of Terms

Responsiveness is defined as caregiver-child interactions in which the caregiver demonstrates concerned and prompt responses to child cues in an individualized and appropriate manner. These interactions include a caregiver: (1) showing positive regard for the child; (2) expressing warmth and attentiveness; (3) being engaged with the child; (4) displaying empathetic facial expressions; (5) creating a sense of trust; (6) providing interesting; developmentally appropriate activities; (7) showing attentiveness to distress and nondistress vocalizations; (8) fostering exploration and asking questions of the child; (9) maintaining proximity; (10) using positive use of language; and (11) engaging in meaningful activities.

CHAPTER 2. REVIEW OF LITERATURE

The purpose of this study is to examine the relationships between child care training and changes in the observed responsive and non-responsive behaviors of caregivers. To understand the need for training and development, it is important to begin by understanding the state of the childcare industry. Louisiana does not meet quality standards as defined by National Association of Education of Young Children (NAEYC). Specialized training is essential to the global quality, as defined by NAEYC, of classrooms which is linked to positive outcomes for young children (Howes, 1997; Kaplan & Conn, 1984; Rhodes & Hennessy, 2000; Ruopp, 1979). Child care caregivers come into the child care industry with varying degrees of training and responsive behaviors that produce positive interactions.

It is of equal importance to understand the adult learner and the unique needs that this population has in an adult learning environment. When adults are provided with an environment that is supportive of learning and the content is delivered using methods that foster self-direction, hands-on learning activities, skills that can be applied immediately, and interaction with peers is productive, we expect that learning will occur. When an adult receives knowledge about new theories, concepts, and skills, will change in behavior occur?

The review of literature is divided into the following sections: (1) conceptual framework, (2) state of child care, (3) caregiver-child interactions, (4) education and specialized training, (5) experiential and transmittal techniques, and (6) summary.

Conceptual Framework

In the early 1970s Malcolm Knowles introduced andragogy to the United States with the underlying concept that children and adults learn differently (Knowles, Holton, & Swanson, 2005). Andragogy, at the time, was groundbreaking and has been critiqued and researched to

clearly identify the complexity of the theory. Merriam (as cited by Knowles, et al., 2005) said this in explaining the complexity and present condition of adult learning theory:

> It is doubtful that the phenomenon as complex as adult learning will ever be explained by a single theory, model, or set of principles. Instead, we have a case of the proverbial elephant being described differently depending on who is talking and on which part of the animal is examined. In the first half of this century, psychologists took the lead in explaining learning behavior; from the 1960s onward, adult educators began formulating their own ideas about adult learning and, in particular, about how it might differ from learning in childhood. Both of these approaches are still operative. Where we are headed, it seems, is toward a multifaceted understanding or adult learning, reflecting the inherent richness and complexity of the phenomenon (p. 1).

Despite years of critique, debate, and challenge, the core principles of adult learning advanced by andragogy have endured, and few adult learning scholars would disagree with the observation that Knowles' ideas sparked a revolution in adult education and training (Knowles, et al., 2005).

Andragogy focuses on the special needs adults have as learners. Knowles combines aspects of humanistic, constructivist, and cognitivist orientations toward learning. He describes ways in which adult learners are different from younger students and identified six assumptions: (1) need to know, (2) self-concept, (3) prior experience, (4) readiness to learn, (5) learning orientation, and (6) motivation to learn.

The Need to Know. Adults need to know why they need to learn something before undertaking to learn it (Knowles, et al., 2005). Facilitators must help the learners become aware of the "need to know" and at the very least make a case for the value of the learning to improve the effectiveness or quality of their job performance.

The Learners' Self-concept. Adults have the self-concept of being responsible for their decisions for their lives (Knowles, et al., 2005). For this reason they need to be seen and treated

by others as capable, self-directed adults. Facilitators need to create a program and environment where adults can develop their latent self-directed learning skills (Brookfield, 1986).

The Role of the Learners' Experiences. Adults come into an educational activity with both a greater volume and a different quality of experience from that of youths (Knowles, et al., 2005; Merriam & Caffarella, 1999). This creates a wide range of individual differences in terms of background, learning style, motivation, needs, interests, and goals creating a greater need for individualization of teaching and learning strategies (Brookfield, 1986; Silberman & Auerbach, 1998). The richest resource for learning resides in the adults themselves; therefore, tapping into these experiences through experiential techniques such as discussions, simulations, problem-solving activities, and case methods is beneficial (Brookfield, 1986; Knowles, et al., 2005; Silberman & Auerbach, 1998; McKeachie, 1999, 2002).

Readiness to Learn. Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations (Knowles, et al., 2005). Adults want to learn things that they can apply in the present, making training of skills or knowledge to be used in the future or that does not relate to their current situations less effective.

Orientation to Learning. Adults are life-centered (or task-centered, or problem-centered) in their orientation to learning (Knowles, et al., 2005). They want to learn what will help them perform tasks or deal with problems that they confront in their everyday situations and those in which they are presented in the context of application to real-life (Knowles, et al., 2005; Merriam & Caffarella, 1999).

Motivation. Adults are responsive to some external motivators (i.e., better job, promotions, higher salaries), but the most potent motivators are internal pressures (i.e., the desire

for increased job satisfaction, self-esteem, quality of life). Motivation from adults can be blocked by training and education that ignore adult learning principles (Knowles, et al., 2005).

Knowles' emphasis on self-direction, his concern for development of the individual toward autonomy and full potential, and his description of the caring, authentic, facilitative role of the instructor align him with humanist philosophy and practice (Merriam & Caffarella, 1999, Taylor, Marienau, & Fiddler, 2000). He also shows some constructivist tendencies in his acknowledgement that "learning is not… the discovery of an independent, preexisting world outside as much as it is the construction of meaning through experience" (Taylor, et al., 2000) Cognitive theorists may also recognize themselves in Knowles's concern for the role of prior experience in how learners approach new learning tasks (Merriam & Caffarella, 1999).

Andragogy urges teachers and trainers to base curricula on learner's experiences and interests. Every learning group contains a configuration of idiosyncratic personalities, all with differing past experiences and current orientations, all at different levels of readiness for learning, all possessing individually developed learning styles, and trainers should be wary of prescribing any standardized approach to facilitating learning (Brookfield, 1986).

Learning is a complex phenomena that defies description by any one model. Andragogy defines what is most characteristic of adult learners, establishes core principles, and defines how to adapt those core principles to varying circumstances (Knowles, et al., 2005). In summary, Knowles' andragogy model of adult learning can represent the foundation to build successful training in the child care industry. Teaching learners how to learn serves as the compliment to adjusting the instructional methodology (Knowles, et al., 2005). Understanding the six assumptions in andragogy prepares facilitators in their creation of successful training.

The Current State of Child Care in the U.S.

Over the past five decades, dramatic increases have occurred in the number of mothers of young children in the United States who are employed outside of the home. About 60% of American preschoolers are cared for by someone other than their parents much of the work week (Bureau of Labor Statistics, 2003). In 2004, approximately 70% of single women and 65% of married women with young children under the age of six in the United States were employed outside of the home (Burke, et al., 2004). This high percentage of families in which both parents are working, or those with a single parent who works, makes delegation of child care responsibilities inevitable (Kagen & Cohen, 1997; Scarr, 1998).

According to the Children's Defense Fund State-by-State Report, Louisiana does not require a license for family child care providers, but accepts voluntary licensing of providers in small family child care homes prior to caring for children. Louisiana does not meet the National Association for the Education of Young Children's (NAEYC) recommended caregiver-child ratios. Louisiana permits a single caregiver in a center to care for as many as five infants under one year of age or care for up to seven toddlers. The NAEYC recommended numbers are three infants or four to five toddlers per caregiver. The State also allows one staff member to care for up to 15 four-year-olds at a time, despite the fact that experts recommend *no more* than eight to ten children per adult.

Child care regulation in the United States represents the lack of the perceived importance in early childhood-related training or formal education (Burchinal et al., 2002). Variations in regulations from state to state are significant related to training requirements for child care staff. Some states have pushed for formal education requirements; however, most states require a set number of clock hours per year for each staff member. Currently, three states do not require

annual training; 30 states require one to 12 hours; nine states require 13 to 19 hours; and only nine states require over 20 hours of annual in-service training. Quality caregiving, which includes knowledge of child development, is the most important predictor of child functioning (NICHD, 2000). Still, in Louisiana there is no pre-service training requirement for individuals seeking employment in a child care center. During employment, child care providers are required only to complete 12 clock hours of training per year (Louisiana Department of Social Services, 2003).

Throughout the United States, early childhood teacher training and education is delivered in different forms and varies substantially in content, scope, and intensity (Burchinal et al., 2002). For example, typical child care related training in a community might consist of short "one-shot" workshops, longer training institutes, or formal education at community colleges, technical schools or universities. Short workshops may be provided by community organizations or on-site training for staff. Intensive institutes last longer and focus on a specific topic that is covered in a more in-depth manner. Post high school coursework, through institutions of higher learning such as community colleges or universities, provides a structured program that is designed to cover the major areas required for competence in the early childhood field (Burchinal et al., 2002).

The child care training requirements vary from state to state. Pre-service requirements and qualifications range from no education or experience to one year of experience and six semesters of formal education (Ackerman, 2003). Annual ongoing training ranges from zero to 24 hours per year (Ackerman, 2003). The actual training itself is not mandated in topic, content, or delivery.

Caregiver – Child Interactions

Central to every definition of quality care includes caregiver sensitivity, warmth, and responsivity to children's needs (Bredekamp, 1997; Howes, 1983). Sensitive and responsive interactions with young children have been the focus of research for the last several years as it relates to quality in child care and the building of caregiver-child relationships. This responsive behavior, including contingent and timely behavior of the primary caregiver, is related to the child's security of attachment (Barnett et al., 1998). Availability of the caregiver is a stronger predictor of security of attachment than the familial or non-familial relationship of the child to the adult (Goosens & IJzendoorn, 1990). Caregivers who engage in sensitive and responsive interactions with children are more likely to develop nurturing relationships which are essential to children's sense of security (Elicker & Fortner-Wood 1995).

Children who have a secure relationship with their caregiver are, in turn, more likely to explore their environment and therefore have more opportunities to learn (de Kruif, McWilliam, Ridley, & Wolery, 2000). Positive and supportive relationships, important during the earliest years of life, appear essential not only for cognitive development (Burchinal et al., 1996; Howes & Smith 1995; Peisner-Feinberg, et al., 2001) but also for healthy emotional development (Barnett et al. 1998; Goosens & van IJzendoorn, 1990) and social attachment (Howes & Hamilton, 1993; NICHD 2002; Peisner-Feinberg, et al., 2001). Children with involved and responsive caregivers fare better on a wide variety of measures (McCartney, et al., 1997) including having higher language scores, spending less time in aimless wandering, exhibiting higher levels of peer play (Whitebook, 2003), having a more positive attitude (Clarke-Stewart, 1987), engaging in more complex play (Howes & Matheson, 1992), and having better adjustment (Kontos, 1991).

Warm caregiving behaviors have an increased positive impact on children through development in social, emotional, cognitive, and language skills through building a secure caregiver-child relationship. In general, children benefit from having warm caregiving that is responsive to their individual needs; therefore, it is pertinent to find out if these behaviors can be influenced or taught.

Education and Specialized Training

Training or education for caregivers of young children has been studied for its effectiveness in improving quality. This was done by observing and by studying environments, program design, child outcomes, teacher behaviors, and job satisfaction (Berk, 1985; Haupt, et al., 1995; Howes, 1997; Kaplan & Conn, 1984; Rhodes & Hennessy, 2000, Ruopp, 1979; Snider & Fu, 1990). Although the degree of the effectiveness and the specifics of the type and length of training and education vary, the results are supportive of training for caregivers of young children.

Previous researchers have looked at the relationship of teacher background on positive caregiving and have come to the conclusion that the presence of bachelor-level teachers with specialized training in early childhood education leads to better outcomes for young children (see Whitebook, 2003). Formal training at the college level has been found to predict competent interactions (Howes et al., 1992), more developmentally appropriate beliefs and practices (Cassidiy et al., 1995), use of encouragement, teacher direction, verbal skills (Phillips, 2000), and a higher quality caregiver as a whole (Howes, 1983).

More specifically, the National Child Care Staffing Study found that a college education in Child Development or Early Childhood Education (CD/ECE) increases the caregiver's positive interactions and lowers negative interactions with infants and toddlers (Howes, et al.,

1992). Howes (1983) showed that caregivers with specialized CD/ECE training played more with children and were less likely to restrict the children's activities. Caregivers who had degrees in CD/ECE and attended training scored significantly higher on the understanding of developmentally appropriate practices (DAP) than those with degrees in other fields (Snider & Fu, 1990).

The actual level of post high school degree is also found to be an important factor in the effectiveness of the caregiver. In the 1970s, the National Day Care Study (Ruopp, 1979), examined qualities of center-based care that predicted good outcomes for children. This study found that specialized training for caregivers was an important predictor of quality. Howes (1997) found that caregivers with an associate degrees or child development associate credential (CDA) were more effective than caregivers with partial college or only high school and workshops. This finding coincides with an earlier study (Berk, 1985) which found that caregivers with two or more years of education display more positive behaviors toward children. These studies are consistent with other findings that conclude that caregivers with formal education in early childhood, in combination with workshops, were more sensitive in their interactions and provided more quality care (Burchinal, et al., 2002).

Similarly, Arnett (1989) studied caregivers across four levels of specialized education (ranging from no training through a degree in early childhood education). This study found that higher levels of education were related to positive and less punitive interactions. Caregivers with the middle range of training were more positive and less punitive than the group with no training. Caregivers with the most training had the highest positive and the least punitive interactions than the other groups. Another study found that just 12 -20 hours of college course work resulted in

significantly more developmentally appropriate beliefs and practices compared to caregivers with no college training (Cassidy, et al., 1995).

Research is limited in the area of specialized education in shorter training sessions such as workshops and institutes. Still, these research results show benefits from brief sessions dealing with early childhood topics. Kaplan and Conn (1984) found that attending a 20-hour training session motivated caregivers to improve their child care setting and increase their involvement with children in their care. In a study conducted on the influence of in-service training on DAP, teachers displayed an increase in DAP beliefs and practices (Haupt, Larsen, Robinson, & Hart, 1995).

There is some evidence that specialized training is related to the quality of caregivers' interactions with children. While the concepts, delivery techniques, and training strategies have evolved since some of the early research studies on child care training were conducted, there is still a "pre-packaged" training delivery system that is used in many cases. Moreover, the characteristics of effective instruction for adult learners and which of the different blends of adult education strategies lead to responsive caregiving have yet to be evaluated.

Experiential and Transmittal Techniques

Knowles, et al. (2005) identified adult learners as autonomous and self-directed, having accumulated a foundation of life experiences and knowledge, but goal oriented, relevancy oriented, practical, and needing to be shown respect in a learning situation. The most valuable and important learning activity is interaction with others. These exchanges create a feeling of community which supports the generation of learning and meaning (Jonassen, et al., 1995). A positive learning experience involves mastering new knowledge, grasping new skills, critically analyzing assumptions and beliefs, collaborating a quest for wisdom, and personal development

(McKeachie, 1999, 2002; Silberman & Auerbach, 1998). Adult learning principles conclude that an appropriate learning environment promotes self-directedness, reflection, learners working from their own experiences and considering the experiences of others, learners determining how and why a learning experience is applicable to his or her daily life, respect for the knowledge and experience of each learner in the learning process, and is learner-focused (Brookfield, 1986; Merriam & Caffarella, 1999; Taylor, et al., 2000).

Greater emphasis in adult education is placed on the individualization of teaching and learning strategies. The richest resources for learning resides in the adult learners themselves; therefore, the emphasis in adult education is on experiential techniques – techniques that tap into the experience of the learners, such as group discussion, problem-solving, case methods, simulation exercises, games and activities, and role-play instead of transmittal techniques such as lecture (Brookfield, 1986; Knowles, et al., 2005).

Adult learning theory helps educators plan and provide active learning that will have the greatest benefit for the participants. In knowing how to teach adults, we can look at specific strategies or methods that are the most conducive to adult learning.

Lecture

Lecture, a transmittal technique, is the oldest teaching method and still the method most widely used in teaching adults around the world (McKeachie et al., 2002; Menges & Austin, 2001). Lecture, being a structured teaching method, has been perceived as a method only for students to understand and retain knowledge. In fact, students are doing much more; analyzing the content of the lecture, seeking organizational cues, looking for key concepts, and attempting to follow the instructor's mode of thinking (McKeachie, Pintrich, Lin, Smith, & Sharma, 1990). Other methods have advantages over lecture. Lectures progress at the lecturer's pace, and

students who fall behind are left behind (McKeachie, 2002). According to Middendorf & Kalish (1996), lectures should be used in 15 to 20 minute sections spaced with active learning activities to reenergize the participants for the next wave of information. Lectures are useful for presenting up-to-date information; summarizing material scattered over a variety of sources; adapting material to the background and interests of a particular group of students at a particular time and place; helping students read more effectively by providing an orientation and conceptual framework; and focusing on key concepts, principles, or ideas (McKeachie, 2002). Lectures can stimulate and provide structure to read more effectively, create interest in new topics, motivate a student to research further, or challenge ideas they have previously taken for granted (McKeachie 1999, 2002).

Problem-Based Learning

Problem-based learning is an instructional strategy that encourages students to develop critical thinking and problem-solving skills in which students confront contextualized, ill-structured problems and strive to find meaningful solutions ("PBL Insight," 1998). This method of education is based in the assumptions that human beings evolve as individuals who are motivated to solve problems, and that problem solvers will seek and learn whatever knowledge is needed for successful problem solving (McKeachie, 2002). In problem-based learning sets, the trainer is in the role of a facilitator to stimulate, guide, integrate, and summarize the discussions. Strategies for problem-solving with adults include case studies, games and simulations, and role play.

Case Study Method - Cases are narratives, situations, select data samplings, or statements that present unresolved and provocative issues, situations, or questions. Generally case method discussions produce student involvement (McKeachie, et al., 1990). Cases

challenge the participants to analyze critique, make judgments, speculate, and express reasoned opinions (Indiana University Teaching Handbook, 2004). There are various formats for case studies including: finished, solution indicated; unfinished, results are not clear; fictional, written by instructor; or original documents, articles, excerpts, statistics, or summaries to name a few. The major benefit of a case study is that abstract information is presented concretely (Silberman & Auerbach, 1998).

Case studies are important in that they bring real world problems into the classroom or a workshop – they ensure active participation and may lead to innovative solutions to problems (Indiana University Teaching Handbook, 2004). They involve gathering, recalling, and using information to solve problems. This involves the kind of restructuring that should likely result in better retention, recall, and use of learning outside the classroom (McKeachie, et al., 1990).

Games and Simulations – An educational game involves students in some sort of competition or achievement in relationship to a goal; it is a game that both teaches and is fun (McKeachie, et al., 2002). Many games are simulations with the goal of modeling some real-life problem or crisis situation. Simulations and games provide a great benefit by participants being actively involved in the learning. One of the advantages of games and simulations in the extent to which they encourage participants to confront their own attitudes and values (Silberman & Auerbach, 1998) through being involved in making decisions, solving problems, and reacting to the results of their decisions (McKeachie, et al., 2002). The retention, application, and motivational outcomes from problem-based experiences are generally superior to those in traditional methods of instruction (McKeachie, 2002).

Role Play is the best-known way to help participants both experience certain feelings and practice certain skills (Silberman & Auerbach, 1998). It is often used as a way of making sense

of a theory by gathering together concepts into a practical experience. Role play is defined as an experience around a specific situation that contains two or more different viewpoints or perspectives. The situation can be written as a prepared brief by the trainer or participants, and the different perspectives or roles involved in the situation are handed out to the different people who will come together to discuss the situation. Role play comes in many forms: improvisation, prescribed roles, semi-prescribed roles, replay of life, participant-prepared skits, and dramatic readings (Silberman & Auerbach, 1998). The situations should be realistic and relevant to the role players, and the most successful scenarios are focused on developing a particular skill or skill set.

Discussion

Discussion is the prototypic teaching method for active learning (McKeachie, 2002). Discussion encourages students to discover solutions for themselves and to develop their critical thinking abilities (Teaching Concerns, 1993). It is an important teaching method because it helps students to process information rather than simply receive information. Discussion is an instructional activity that can be used in classes of all sizes and allows students to be active and experience personal contact (Indiana University Teaching Handbook, 2004; McKeachie, 2002). Good discussion gives students an opportunity to formulate principles in their own words and to suggest applications of these principles; they help students become aware of and define problems implied in readings or lectures; and they can also increase student's sensitivity to other points of view and alternative explanations (Indiana University Teaching Handbook, 2004).

The goal of discussion is to get students to talk purposefully about the topic or materials. The teacher using this method acts as a facilitator creating the atmosphere and clear expectations for participation. Facilitators of discussion pose a problem to solve, monitor the discussion, and

summarize when completed (Indiana University Teaching Handbook, 2004). Discussion methods are superior to lectures in student retention of information after the end of the course; transfer of knowledge to new situations; development of problem solving, thinking, or attitude change; and motivation for further learning (McKeachie, Pintrich, Lin, & Smith, 1986).

Using a combination of these defined strategies in a variety of ways supports participants' special needs as adult learners. Understanding the strengths and weaknesses of each of these techniques will allow the trainer to create combinations that will enhance the learning experiences of the participants. When adults have participated in a positive learning experience that follows the six assumptions of andragogy, we can assume that they will take what they have learned and apply it in their work environment (i.e. the child care classroom).

Summary

In general, the review of literature reveals that adults have special learning needs. Andragogy has a set of six assumptions that help trainers design effective programs that foster learning in adults. These programs must be diverse in their approach to the child care industry because there is not a standard level of quality among the different states. The closest recognized standards are held by the NAEYC. Louisiana standards are significantly below those recommended by the NAEYC. Fairly extensive literature on the education and training indicates that caregivers with differing amounts of formal education and specialized training also vary in their responsiveness toward and positive social interaction with children (Arnett, 1989; Howes, Galinsky, & Kontos, 1998; Howes, Whitebook, & Phillips, 1992). To help caregivers achieve a higher level of responsiveness, the minimum training they are required to receive must meet their needs as an adult learner and in their professional development. The instructor must therefore customize the training using different teaching strategies.

CHAPTER 3. METHOD

Participants

In the present study, caregivers were defined as those who work in group care settings caring for children 18 months and younger. Caregivers working in center-based care in East Baton Rouge, Ascension, Livingston, Iberville, West Baton Rouge, Pointe Coupee, East and West Feliciana, Iberia, Lafayette, and Evangeline Parishes were notified of the opportunity to attend the *Right from Birth, a parenting series* (Grace & Lindsey, 2003) training based on the book *Right from Birth* (Ramey & Ramey, 1999). Caregivers were notified by a flyer mailing that was sent to all licensed centers in the above mentioned parishes. Three participants in the first session, one in the second, and two in the final class participated in the study. Caregivers working solely with children birth to 18 months were selected to participate in this study. The training series was offered three times at a location in East Baton Rouge Parish. The mean size of the classes was nine, (range 8 – 10). All classes were attended by caregivers currently working in center-based child care.

All six of the caregivers were female with ages ranging from 20 to 37. Their educational background ranged from high school diplomas to three years of college education. Three caregivers had a high school diploma and had previously attended childcare workshops (ranging from no in-service hours this year to 12 hours this year). One caregiver had a high school diploma and a six month child care training certificate. One had a two year degree in a nursing related field. The last participant was in her third year of college in a field not related to Child Development or Early Childhood Education. Their prior experience working with children ranged from seven months to twelve years. Three participants worked in classrooms as the sole caregiver and three had at least one assistant in the classroom.

All centers held Class "A" licenses[1] from the state of Louisiana but varied in resources, size, and quality of care. The six subjects that were observed all completed six hours of training through one of the three sessions.

Training Intervention

The *Right from Birth: A Parenting Series* training is based on the best-selling parenting guide, *Right from Birth: Building Your Child's Foundation for Life* by Sharon and Craig Ramey (1999). The book reports recent research on the functioning of the brain and the integration of emotional, physical, mental, and social growth. Each session gives concrete suggestions on what to do at various ages, the emphasis being on the developmental stage of the child at a particular time. The authors describe seven principles essential to positive caregiving, culled from years of research (Ramey & Ramey, 1999). The 12 half-hour episodes lead caregivers through the stages of early childhood from birth to 18 months and give practical advice on how adults can prepare children for a lifetime of learning from the day they are born. The focus is on the child's total development – how growth, learning, social interactions, emotional development, and communication all interact and depend on one another. The goal is to give participants a fuller appreciation of a child's accomplishments during the first 18 months and a more balanced and enjoyable approach to caregiving. The topics for the class were the following: (1) The Wonders of the Brain, (2) People Skills in Infancy, (3) Learning and Intelligence, (4) The Many Worlds of Infancy, (5) The Seven Essentials, (6) Getting Oriented and Building Trust: The First Month, (7) Discovering the World: Two to Three Months, (8) Becoming a Social Being: Four to Six Months, (9) Thinking and Experimenting: Seven to Ten Months, (10) Independence: Eleven to Fourteen Months, and (11) Self-Competence: Fifteen to Eighteen Months.

[1] LA is the only state that operates with two different standards for center-based child care. Class A licensed centers are able to receive federal funding, operate with lower staff-to-child ratios, pay a higher licensure fee, and do not allow corporal punishment, as compared to Class B licensed centers.

Behavior Definitions

Items covered in the training, related to responsiveness, were categorized into positive and negative behaviors. Each positive and negative category has subcategories of active and passive. Positive caregiver behaviors are those generally acknowledged as leading to desirable outcomes for children. Positive active behaviors are actions the caregiver does with the child that are positive. Examples of positive active behaviors include: holding, smiling, and talking to an infant. Positive passive behaviors are actions the caregiver does for the child beforehand which provides a positive experience for the child. An example of positive passive behavior is setting up an activity within a child's reach. Negative caregiver behaviors are those that are commonly found to create poor outcomes for children. Negative active behaviors are actions the caregiver does or neglects to do with the child. Negative active behaviors include: using a negative tone while talking to an infant, restricting an infant's play or activity, and using adult centered activities and adult centered interactions. Negative passive behaviors are actions the caregiver does or neglects to do beforehand that produce a negative experience for the child. Examples of negative passive behaviors include, playing videos in class, non-sleeping infants left alone in a bouncy chair or crib, without an activity, and caregivers socializing with adults rather than children.

Social Validation

Items categorized as positive and negative, passive and active were taken from the skills covered in the *Right from Birth: Building Your Child's Foundation for Life* book and *Right from Birth: A Parenting Series*. A list of the thirty-seven observable caregiver behaviors were given to six professionals that have experience working with infants and toddlers in group care settings and have formal education in early care and education. Each was asked to rate the individual

behaviors as positive or negative and passive or active. No fewer than four professionals agreed on how each behavior was categorized (See Appendix C). The overall agreement was 96% (ranging from 83%-100%).

Design

A Single-subject research design was used to measure caregiver responsiveness prior to and following the training intervention. Single-subject research focuses on relating change in behavior to change in an independent variable. This research design is conducive to conducting research in clinical settings for several reasons. Experimental design options of single-subject research methodology allow for all subjects to receive the treatment unlike group comparison methodology that typically employs control groups (Barlow & Hersen, 1984). From a clinical standpoint, the results of the single-subject research design typically provide useful information about the most beneficial treatment for an individual subject (e.g., early childhood educators, children with disabilities). For example, an intervention can be applied to an individual or a behavior to determine the effectiveness before applying the intervention to other person or behavior. Single-subject design research can be effectively carried out in natural contexts with individuals, thus enhancing the applicability of treatment effects in natural contexts (e.g., classrooms) (Alberto & Troutman, 1995). Group comparison studies often involve removing individuals to laboratory settings to reduce interference of outside variables that may affect research outcomes. In single-subject study, the strategy is to increase confidence in the occurrence of a relationship between treatment and improvement by replicating the procedures and the effect across the subjects. For instance, when change in behavior was observed for Cohort 1 following the intervention while behaviors remain stable for Cohorts 2 and 3. Subsequently, when the intervention was delivered to Cohort 2, changes in behavior were

observed while behaviors for Cohort 3 remain stable. If the manipulations are systematic, each replication makes an alternative hypothesis less likely and increases confidence in the method (Birnbrauer, Peterson, & Solnick, 1974).

A multiple baseline design (see Kazdin, 1982) was used to measure the impact of the training intervention across individuals. A multiple baseline design has advantages in a clinical setting. When using this design, there is no need to withdraw intervention to demonstrate experimental control. Intervention is introduced with each individual sequentially to assess if behavior changes when the intervention is introduced and to demonstrate functional control of the independent variable. Additionally, the effects of an intervention can be measured and subsequently modified, if necessary, if an intervention is not producing the change expected (Kazdin, 1982).

Multiple baseline design evaluates the effects of an independent variable by comparing baseline and intervention conditions. This design is unique in that the comparisons are made across multiple dependant variables and in a time-lagged manner (Birnbrauer, et al., 1974). These comparisons demonstrate that the observable changes in the dependant variable are a result of the time-lagged application of the independent variable across dependant variables rather than the presence of an extraneous variable.

Procedures

Observations. Prior to data collection, two observers (one undergraduate and one graduate student in human ecology) were trained through written instructions on behavior definitions, interval recording procedures, and ethics of observational research. Prior to baseline data collection, observers conducted eight practice sessions in infant and toddler classrooms. Classrooms used for practice observation sessions where located in child care centers that were

not participating in the present study. Observers stood in unobtrusive positions, with full visibility of the classroom, as to not disrupt the children and routines. Two observations were made per day with a 15 minutes break in-between each session. Observations in the classrooms were made during free play between 9:00 – 11:00 am or 2:00 – 4:00 pm. The caregivers behaviors were continuously observed and measured. Data were collected using a partial interval recording system. Behaviors were recorded in 15-second intervals over a 10 minute period.

Baseline. During baseline, observed caregiver responsiveness to infants and toddlers was measured. Responsiveness was defined as both positive and negative behaviors exhibited by caregivers. Subcategories of each include passive and active caregiver behaviors as described above. No instruction was given to caregivers; they were told to follow normal routines. Each caregiver's behaviors were measured until a stable pattern of behavior was detected, which averaged six observations across the caregivers. Stability during baseline conditions is defined as the absence of trend with only minimum variability in level in the data series.

Training Intervention. Caregivers attended a total of six hours of *Right from Birth* training which covered brain development, teacher-child interactions, aspects of quality care, and social guidance for infants and young toddlers. The training was delivered in two three-hour or one six-hour session. All three training sessions were provided by a master's level child development trainer from LCES. Data collection following training was conducted in a manner identical to baseline. Six weeks following the intervention, one observation was made of each caregiver to evaluate maintenance of any behavior change.

The training was evaluated by comparing recommended experiential and transmittal training techniques to the strategies used in each training session. During each training, an observer documented the type of teaching strategy that was being used and recorded the time

spent using each strategy. The teaching strategies included; lecture (22%, range 19% – 25%), discussion (19%, range 15% – 24%), videos (14%, range 13% –16%), role-play (9%, range 7% – 12%) and game activities (21%, range 21% – 22). Tests, evaluations, and breaks took 15% of the training sessions across the three training institutes (Figure 1).

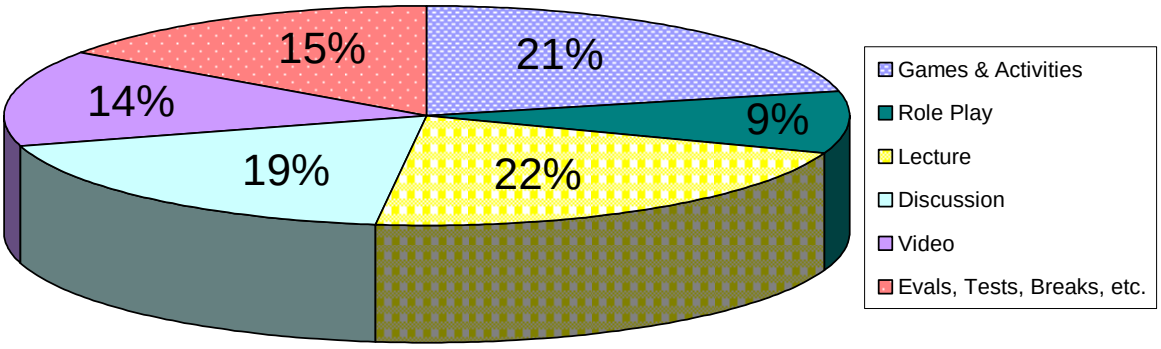

Figure 1. Overall Training Strategies Breakdown

Reliability. Interobserver agreement refers to evaluation of how well the data from separate observers correspond. It is recommended that reliability checks be conducted on 20% of observation sessions with interobserver agreement of 80% or higher (Cooper, 1987b; Kazdin, 1982). Interobserver agreement checks were conducted on 28% of all observation sessions, across baseline and intervention conditions. Interobserver agreement was calculated using a point-by-point agreement ratio assessing whether there is agreement on each instance of the

observed behavior. The response-by-response scoring of the observers was compared directly to see whether both observers recorded a particular response as occurring during each 15-second interval (Kazdin, 1982). Agreements of the observers on the specific trials are divided by the number of agreements plus disagreements and multiplied by 100 to form a percentage. Agreements are recorded when both observers record the same exact behavior, where as disagreements are recorded when one observer records a behavior as occurring and the other did not, or when the observers record different behaviors as occurring. Interobserver agreement for occurrence of caregiver behaviors was 88% (range, 82% – 95%), non-occurrence 91% (range, 84% – 98%), and overall 90% (range, 84% – 97%).

CHAPTER 4. RESULTS

This study examined the impact of the *Right from Birth* training institute, conducted by the Louisiana Cooperative Extension Service, on community-based child care caregiver's behaviors. Specifically, the study examined the average amount of positive and negative caregiver behaviors through live observations before and after the caregivers participated in the training. Table 1 includes results for the three Cohorts across baseline, intervention, change, and follow-up.

During baseline, the positive active (PA) and positive passive (PP) behaviors that the caregivers displayed varied for each individual (Figure 2). For Cohort 1, the PA behavior averages for Isabel, were 24% (range, 0% – 38%), for Marissa, 79% (range, 73% – 85%), and for Latasha, 36% (range, 18% – 55%), respectively. PP behaviors were 55% (range, 18% – 73%) for Isabel, 24% (range, 18% – 35%) for Marissa, and 28% (0% – 45%) for Latasha. Tamara participated in Cohort 2, displaying an average of 49% for PA (range, 25% – 75%) and 39% (range, 25% – 53%) of PP behaviors. Cohort 3, Sarah and Candace, displayed an average of 63% (range, 43% – 73%) and 11% (range, 0% – 30%) of PA behaviors, and 66% (range, 0% – 25%) and 5% (range, 50% – 73%) of PP behaviors.

After attending the training institute, all six caregivers showed an increase in positive active behaviors and five in positive passive behaviors with the average increase in PA being 35% (range, 7% – 62%) and 27% (range, -6% – 50%) for PP across all caregivers. For Cohort 1, the average PA and PP behaviors individually were 86% (range, 73% – 93%) and 49% (range, 48% – 53%) for Isabel, 86% (range, 78% – 93%) and 42% (range, 30% – 63%) for Marissa, and 91% (range, 75% – 100%) and 68% (range, 60% – 83%) for Latasha. The average increase for PA and PP behaviors was 62% and -6% for Isabel; 7% and 19% for Marissa; and 56% and 40%

for Latasha. In Cohort 2, Tamara showed a 31% increase in PA and 50% increase in PP. Her average behaviors after intervention were 80% (range, 60% – 98%) for PA behaviors and 88% (range, 50% – 100%) for PP behaviors. Cohort 3 displayed an average percentage of PA and PP behaviors during intervention of 80% (range, 75% – 85%) and 42% (range, 33% – 50%) for Sarah, and 94% (range, 88% – 100%) and 38% (range, 23% – 60%) for Candace. These demonstrated an average increase of 17% PA and 31% PP for Sarah and 28% in PA behaviors and 33% in PP behaviors for Candace.

Negative behaviors displayed by caregivers showed a decrease across active and passive behaviors after training intervention (Figure 3). During baseline, negative active (NA) and negative passive (NP) behavior averages for Cohort 1 include: Isabel 24% (range, 10% – 45%) and 96% (range, 93% – 100%), Marissa 6% (range, 0% – 13%) and 49% (range, 40% – 55%), and Latasha 32% (range, 10% – 68%) and 62% (range, 53% – 70%). In Cohort 2, Tamara displayed NA behaviors 0% and NP behaviors 59% (range, 48% – 75%). Cohort 3 behavior averages consisted of, 0% NA behaviors and 53% (range, 38% – 63%) NP behaviors for Sarah and 4% (range, 0% – 15%) of NA and 47% (range, 38% – 63%) of NP behaviors for Candace.

A decrease in NA and NP behaviors was observed for all six caregivers, including those who maintained at 0%, after training intervention with the average decrease in NA of 10% and NP of 31% overall. The decrease in NA and NP behaviors individually is Isabel 18% and 62%, Marissa 6% and 17%, and Latasha 27% and 44%. After training observed behaviors averages were 6% (range, 0 – 10) NA and 34% (range, 25 – 45) NP for Isabel; 0% (range, 0% – 3%) NA an 32% (range, 23% – 38%) NP for Marissa; and 5% (range, 0% – 20%) NA and 18% (range, 3% – 23%) NP for Latasha. Tamara, Cohort 2, maintained a 0% average for NA behaviors and decreased the NP behaviors by an average of 8% with observed averages of 0% (range, 0% –

3%) for NA and 51% (range, 28% – 75%) for NP behaviors. In Cohort 3, Sarah maintained a 0% for NA behaviors and showed a 26% decrease in NP behaviors with observed NA and NP behaviors averages of 0% and 28% (range, 23% – 38%). Candace, also Cohort 3, showed an average NA and NP decrease of 2% and 28%. After attending the training intervention, 2% (range, 0% – 3%) for NA and 20% (range, 8% – 28%) NP behaviors were observed.

All six caregivers showed an overall improvement in their caregiving behaviors after attending the training institute. Individual average for general improvement included: Isabel 34%, Marissa 12%, Latasha 42%, Tamara 22%, Sarah 18%, and Candace 23% change toward more responsive, positive caregiving. Table 2 includes the average percentage of specific behaviors across positive and negative, active and passive observed behaviors.

Six weeks following each training session one observation was made of each caregiver. All caregivers showed maintenance of the positive behavior increases and negative behaviors decreases seem after the training intervention. Caregivers PA and PP six weeks post training were as follows: Isabel 90% and 48%; Marissa 93% and 45%; Latasha 93% and 60%; Tamara 90% and 93%; Sarah 85% and 40%; and Candace 90% and 55%. For NA and NP averages were 8% and 28% for Isabel; 0% and 38% for Marissa; 8% and 23% for Latasha; 0% and 18% for Tamara; 0% and 25% for Sarah; and 3% and 15% for Candace six weeks after intervention.

Table 1: Average percentage of observed behaviors for individual caregivers.

		Baseline	Intervention	Change	Follow-up
Cohort 1					
	Isabel				
	PA	24%	86%	62%	90%
	PP	55%	49%	-6%	48%
	NA	24%	6%	18%	8%
	NP	96%	34%	62%	28%
	Marissa				
	PA	79%	86%	7%	93%
	PP	24%	42%	19%	45%
	NA	6%	0%	6%	0%
	NP	49%	32%	17%	38%
	Latasha				
	PA	36%	91%	56%	93%
	PP	28%	68%	40%	60%
	NA	32%	5%	27%	8%
	NP	62%	18%	44%	23%
Cohort 2					
	Tamara				
	PA	49%	80%	31%	90%
	PP	39%	88%	50%	93%
	NA	0%	0%	0%	0%
	NP	59%	51%	8%	18%
Cohort 3					
	Sarah				
	PA	63%	80%	17%	85%
	PP	11%	42%	31%	40%
	NA	0%	0%	0%	0%
	NP	53%	28%	26%	25%
	Candace				
	PA	66%	94%	28%	90%
	PP	5%	38%	33%	55%
	NA	4%	2%	2%	3%
	NP	47%	20%	28%	15%

Table 2: Average percentage of observed behaviors across all caregivers.

	Behaviors	Baseline	Intervention	Change
PA	Communication	19%	30%	11%
	Asks an infant a question			
	Makes declarative statement to infant			
	Talks in "motherese"			
	Celebrates accomplishment			
	Caregiver laughs, smiles, coo			
	Uses facial gestures while talking & playing with infant			
PA	Physical touch/holding	5%	15%	10%
	Face-to-face interaction			
	Gaze into face (young infants)			
	Holds infant or touches tenderly			
PA	Basic Care	13%	19%	7%
	Provides help to infant			
	Provides physical care			
PA	Play/Activities	14%	17%	3%
	Reads or tell stories to infant			
	Involved in activity with infant			
	Engages in play activities that facilitate learning			
	Brings a toy to the infant or infant to a toy			
	Saying words in connection with their meaning			
	Encourages a skill			
	Engages in back-and-forth play			
PA	Respond/Support/Guide	2%	5%	3%
	Responds to infants social gestures			
	Responds when infants fusses, cries			
	Responds verbally to infants' vocalizations			
	Stops activity when child shows no interest			
	Uses distraction & redirection for undesirable behaviors			
PP	Engaged alone	27%	54%	27%
	Allows infants to explore with their senses			
	Infant engaged in activity alone			
NA	Harsh actions	5%	1%	4%
	Expresses negative feelings with infant			
	Speaks to infant harshly (negative tone)			
	Grabs, pushes infant			
	Inappropriate activities	6%	1%	5%
	Adult centered interaction/activity			
	Restricts infants activity			
NP	Alone (time-out)	8%	0%	8%
	Infant is in highchair, bouncy seat, crib			
	Child w/o activities/interaction	31%	14%	17%
	Plays videos for infant			
	Infant alone and not involved in activity			
NP	Caregiver non-engaged	23%	17%	6%
	Emotionally unaware of infants needs			
	Expresses no emotion or animation			
	Talking to other adults in room			
	No response to cues of infant			

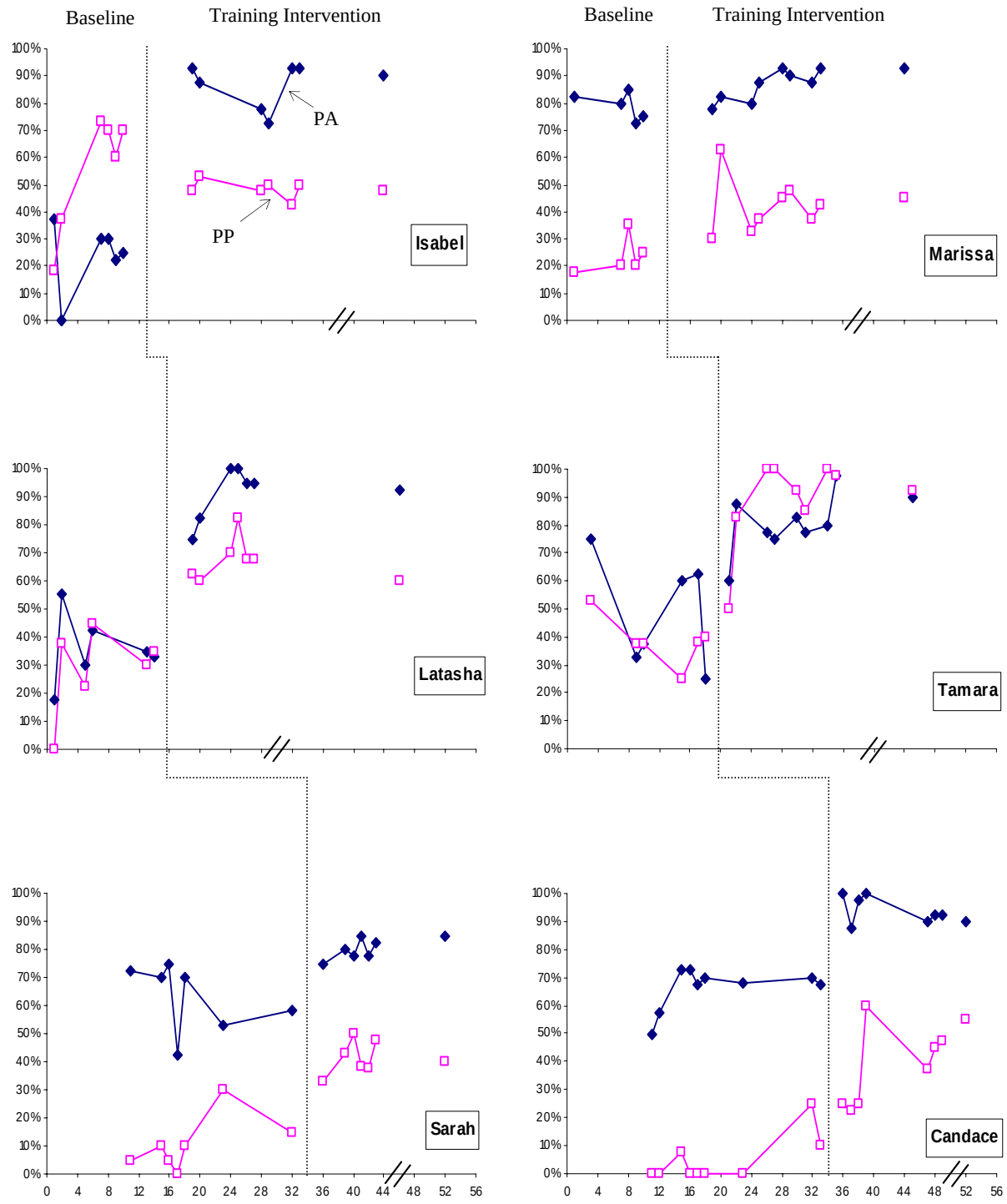

Figure 2. Average percentage of positive active (PA) and positive passive (PP) behaviors during each observation session.

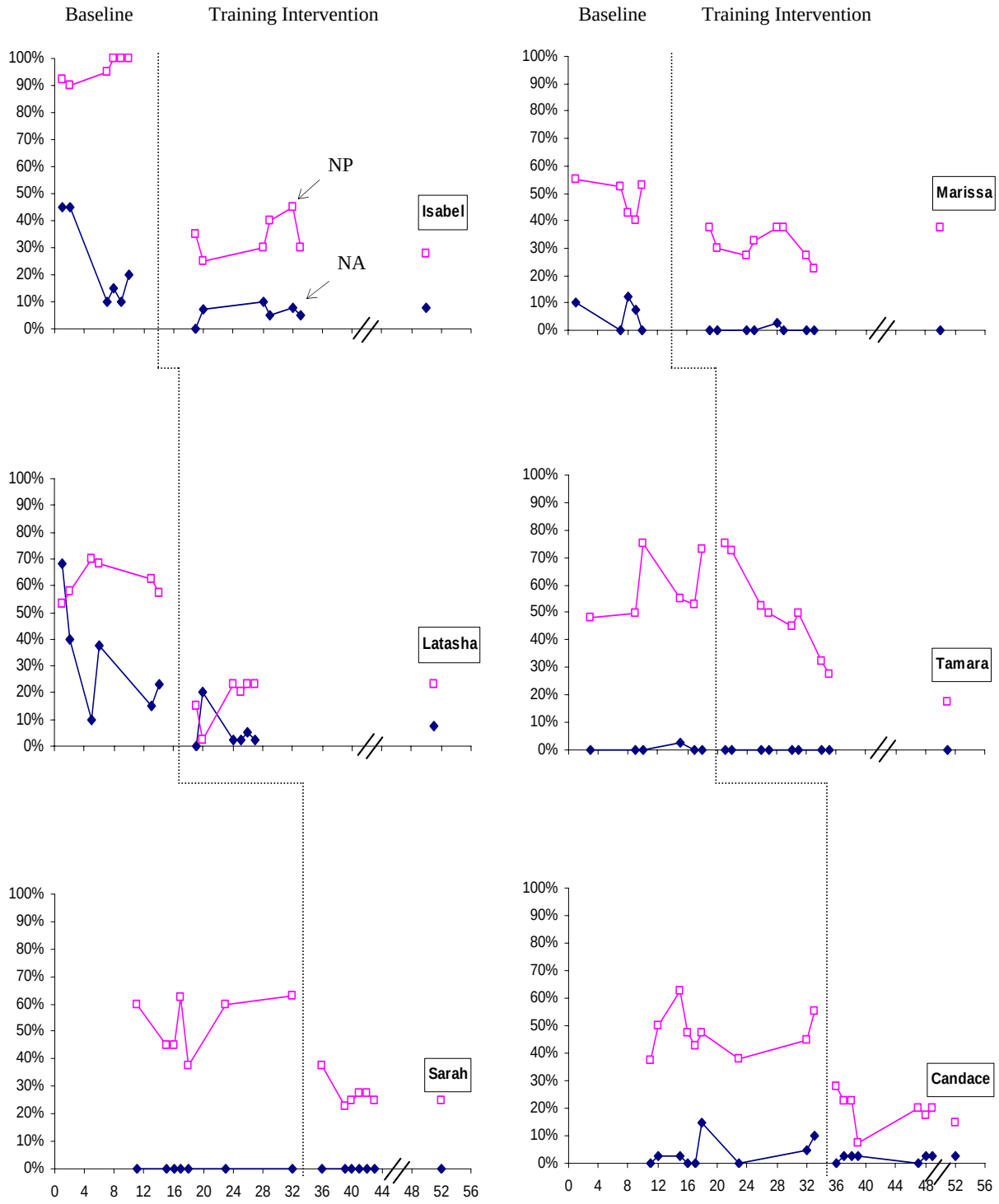

Figure 3. Average percentage of negative active (NA) and negative passive (NP) behaviors during each observation session.

CHAPTER 5. DISCUSSION

The *Right from Birth* training institute focuses on the first 18 months of life and the needs of young children. Promoting the seven essentials of caregiving (1) encourage, (2) mentor, (3) celebrate, (4) rehearse, (5) protect, (6) communicate, and (7) guide, brain development, and how infants learn, this training encourages caregivers to evaluate their classroom practices, current expectations, and behaviors. Results indicated that the infant and toddler training institute, provided by the LCES, increased the average amount of observed positive caregiving behaviors and decreased the average amount of observed negative caregiving behaviors for each caregiver in all three training sessions. On average, the increase in observed positive behaviors was 31% and the decrease in negative caregiving behaviors was 21%.

All training sessions were designed in accordance with recommended training practices for adult learners (Indiana Teaching Handbook, 2004; McKeachie, 2002; Silberman & Auerbach, 1998). The instructor used a variety of training strategies and limited the length of each lecture segment to an average of 12 minutes. Participants spent time in activities as an individual, with a partner, and in small groups. Large and small group discussion was used to clarify participant understanding and encourage individual involvement and critical thinking. Role playing was used to work through critical caregiving issues and common challenges presented by the group. Using a variety of training strategies in shorter segments, incorporating each group's experiences, and allowing the group to guide the learning process follows research of best practices for training adults (Knowles, et al., 2005; McKeachie 1999, 2002; Silberman & Auerbach, 1998).

More specifically, this study suggests that training may be more likely to increase or decrease certain behaviors in the adult learner. After training, observed positive verbal

caregiving behaviors increased in every caregiver. The average amount observed of caregivers asking questions, making statements, and talking about what the child sees, hears, or is doing increased an average of 11% (range, 3% – 19%) overall. A second positive behavior that demonstrated a great increase is the act of holding infants and toddlers. Discussions in all three training sessions revealed that many caregivers have been taught that holding a child "too much" can cause them to become spoiled. Information to the contrary appears to have contributed to the observed increase in caregivers holding infants more frequently, an overall increase of 10% (range, 4% – 20%).

Activities such as singing songs, reading books, and playing with the infants were also seen to increase among most of caregivers. This positive active characteristic was found in five out of six caregivers. This increase seems to correlate with the decrease in infants spending time alone in cribs, highchairs, and adult-centered activities. This could be due to the fact that when the caregivers spent less time instructing children, they had more time to interact in more appropriate activities (i.e., when the infants were out of the cribs, highchairs, and playing on the floor, there were more opportunities available for caregivers to engage in play).

Negative caregiving behaviors that had the most significant decrease included the viewing of videos and "time-out." After attending the training sessions, the caregivers were not observed placing infants or toddlers in holding stations (cribs) for time-out or playing videos for the children. Lastly, caregivers were observed providing more toys for infants within reach. During baseline, there was a high percentage of negative passive behaviors including infants without a toy, activity, or interaction. After intervention, the observed average of infants non-engaged was lower by 17% (range, 8% – 42%).

One seemingly noteworthy aspect of the results is that each caregiver showed an increase in positive behaviors and a decrease in negative behaviors with varying degrees. Consistent with previous research which states that formal education has the greatest influence on caregiving behaviors (Berk, 1985; Howes, 1983, 1997; Howes et al., 1992; Phillips, 2000), the caregiver that displayed the greatest improvement had the highest level of formal education. This caregiver was in her third year of college at a university. The caregiver that made the third most notable increases had been in the child care field for nine years and had participated in a six-month training program for child care workers six years prior. Her improvement supports the previous finding that longer training programs have greater impacts (Arnett, 1989; Cassidy et al., 1995). Most importantly, the general increase across all caregivers is consistent with the findings of Kaplan and Conn (1984) and Huapt, et al., (1995) that shorter trainings can increase teacher involvement and the amount of appropriate activities for young children.

Results did show one caregiver with an observed average PP behavior dropping 6% from baseline to intervention. This decrease in the average of PP behaviors can be attributed to the teacher's low teacher-to-child ratio in combination with her increase in PA behaviors. In a classroom with four to five toddlers, when the caregiver increased her PA verbal communication, physical holding of the children, and being involved in play, the children were engaged with the caregiver more often. This, in turn, limited the amount of time the children were engaged with material alone, which was the primary PP behavior displayed during baseline.

Six weeks following each training session, one observation was made of each caregiver. The data shows the average observed behaviors during intervention maintained at least six weeks after the training session.

Looking at the states' requirements for child care caregivers and noting the minimal amount of training hours required per year, the finding of this study suggests the importance of caregivers attending trainings that are designed for the adult learner. Trainings that use a variety of flexible strategies to accommodate the caregiver's experiences and provide opportunities to practice new concepts and skills will have more impact on the caregiver's behaviors.

Implications for Practice

Acknowledging that child care regulations for training across the nation are low, requiring a limited amount of yearly training for those who work with young children, the actual training hours they receive must be of higher quality. The training that caregivers attend must take the adult learner into considerations when selecting the topic and planning. It is important for the training to contain a variety of well planned experiential and transmittal techniques based on recommended practices for teaching adults. In order for training to have an impact on the caregiver's behaviors, they need to attend training based on their needs which will provide positive learning experiences. Additionally, administrative support is needed to assist with caregiver-to-child ratios and group size. For caregivers to implement what they have learned through training appropriate ratios must be maintained.

Implications for Future Research

Additional research is warranted to identify which caregiving behaviors are most influenced by training. Isolating specific behaviors that can be taught through an adult learning setting would provide important information for the content of mandatory trainings.

Future research should examine the impact of training focused on specific sets of behaviors and or skills. The training for this study focused on infant and toddler development and behaviors that support development in young children. Looking at a training that was solely

focused on verbal communication with infants and toddlers or engaging in play with young children could provide useful information to trainers and directors about training content that could have the greatest impact on caregiver's behaviors.

More long term research is needed to look at behavior change related to training long term. It is important to determine the duration of the behavior change, possible regression of behavior, and average time lapse from the training to regression. It would also be of interest to see if refresher training would again change behavior in a positive way after a regression had occurred.

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APPENDIX A: LSU INSTITUTION REVIEW BOARD APPLICATION

LSU INSTITUTIONAL REVIEW BOARD (IRB) 03/24/2004

IRB APPLICATION: APPROVAL OF PROJECTS WHICH USE HUMAN SUBJECTS

The IRB uses this form to obtain succinct answers to questions it must consider. If incomplete, your application will be returned! You can download this form and all other IRB documents from http://appl022.lsu.edu/osp/osp.nsf/$Content/LSU%20IRB%20Documents) & complete it with your word processor. Call Robert Mathews for assistance, 225-578-8692, or e-mail him at: irb@lsu.edu.

When this application is submitted to the IRB please include:

- **Two copies of this completed form.**
- **A brief project description (adequate to evaluate risks to subjects)**
- **Copies of all instruments to be used. If this proposal is a part of a grant application include a copy of the grant proposal, the investigative brochure (if one exists) and any recruitment materials including advertisements intended to be seen or heard by potential subjects.**
- **The consent form that you will be using.**
- **Copies of your IRB stamped consent form must be used in obtaining consent.**

==========

(**IRB Use:** IRB# _____ Review Type: Expedited___ Full ___)

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Part 1: General Information

1. **Principal Investigator:** Dr. Cynthia DiCarlo Rank: Assistant
(PI Must be an LSU Faculty member)

Dept.: Human Ecology Ph: (225) 578-7005

E-mail: cdicar2@lsu.edu

Co-investigators*: Carrie Ota

*Student? **Y**/N __ ***Thesis***/dissertation/class project? **Y**/N

Dept.: Human Ecology – FCCS Ph: 512-422-6157

E-mail: cota1@lsu.edu

2. **Project Title:** The Impact of Child Care Training on Caregiver Responsiveness

3. **Proposed duration** (months):3 **Start date:** May 2005

4. Funding sought from: N/A_____

5. LSU Proposal #: N/A

6. Number of subjects requested: 10

7. Are you obtaining any health information from a health care provider that contains any of the identifiers listed below? NO

A. Names

B. Address: street address, city, county, precinct, ZIP code, and their equivalent geocodes. Exception for ZIP codes: The initial three digits of the ZIP Code may be used, if according to current publicly available data from the Bureau of the Census: (1) The geographic unit formed by combining all ZIP codes with the same three initial digits contains more than 20,000 people; and (2) the initial three digits of a ZIP code for all such geographic units containing 20,000 or fewer people is changed to '000'. (Note: The 17 currently restricted 3-digit ZIP codes to be replaced with '000' include: 036, 059, 063, 102, 203, 556, 692, 790, 821, 823, 830, 831, 878, 879, 884, 890, and 893.)

C. Dates related to individuals

i. Birth date

ii. Admission date

iii. Discharge date

iv. Date of death

v. And all ages over 89 and all elements of dates (including year) indicative of such age. Such ages and elements may be aggregated into a single category of age 90 or older.

D. Telephone numbers;

E. Fax numbers;

F. Electronic mail addresses;

G. Social security numbers;

H. Medical record numbers; (including prescription numbers and clinical trial numbers)

I. Health plan beneficiary numbers;

J. Account numbers;

K. Certificate/license numbers;

L. Vehicle identifiers and serial numbers including license plate numbers;

M. Device identifiers and serial numbers;

N. Web Universal Resource Locators (URLs);

O. Internet Protocol (IP) address numbers;

P. Biometric identifiers, including finger and voice prints;

Q. Full face photographic images and any comparable images; and

R. Any other unique identifying number, characteristic, or code; except a code used for re-identification purposes; and

S. The facility does not have actual knowledge that the information could be used alone or in combination with

other information to identify an individual who is the subject of the information.

YES Your study falls under the HIPAA (Health Information Privacy and Accountability Act) and you must obtain either a limited data set use agreement or a HIPPA authorization agreement from the health care provider. This agreement must be submitted with your IRB protocol.

NO You do not need a HIPAA agreement.

A. ASSURANCE: PRINCIPAL INVESTIGATOR (named above)

I accept personal responsibility for the conduct of this study (including ensuring compliance of co-investigators/co-workers in accordance with the documents submitted herewith and the following guidelines for human subject protection: The Belmont Report, LSU's Assurance with OPRR, and 45 CFR 46 (Available from OSP or at http://appl022.lsu.edu/osp/osp.nsf/$Content/LSU%20IRB%20Documents)

Signature of PI _____ Date _____

B. ASSURANCE OF STUDENT/PROJECT COORDINATOR named above

I agree to adhere to the terms of this document and am familiar with the documents referenced above.

Signature _____ Date_____

Part 2: Project Abstract - provide a brief abstract of the project.

In the state of Louisiana, there are no pre-service requirements for child care employment. Teachers currently working in the child care field have only a minimal 12-hour yearly in-service requirement. The majority of child care teachers meet their in-service requirements through training workshops. This study focuses on the effectiveness of training, described in terms of adult learning theory, and the impact on caregiver behaviors. Caregiver responsiveness to infants will be measured prior to attending training and after the completion of the workshops. Responsiveness will be defined as both positive and negative behaviors exhibited by caregivers. Subcategories of each will include passive and active caregiver behaviors. Caregivers will attend 6 hours of "*Right from Birth*" training which will cover brain

development, teacher-child interactions, aspects of quality care, and social guidance for infants and young toddlers.

Part 3: Research Protocol

A: Describe study procedures

During baseline, caregiver responsiveness to infants will be measured. Responsiveness will be defined as both positive and negative behaviors exhibited by caregivers. Subcategories of each will include passive and active caregiver behaviors. Examples of passive positive caregiver responses are smiling at infant, observing an infant at play. Examples of active positive caregiver responses are reading to infant, directing a question to infant, and helping or entertaining a child. Examples of passive negative caregiver responses are infant is not involved in any activity, expressing no emotion or animation toward infant. Examples of active negative caregiver responses include speaking in a negative tone, displaying controlling interactions, and grabbing or pushing a child. Caregivers will attend six hours of "*Right from Birth*" training which will cover brain development, teacher-child interactions, aspects of quality care, and social guidance for infants and young toddlers. Following the training, caregiver's responsiveness will be measured as in the baseline condition.

B: Answer each of the following questions.

1. Why is the use of human subjects necessary? (v.s. animals/in vitro)

   This study is to better understand if training of child care workers has a positive influence on teacher behaviors in the class.

2. Specify sites of data collection.

   The individual centers in East Baton Rouge Parish where the teachers are employed.

3. If surgical or invasive procedures are used, give name, address, and telephone number of supervising physician and the qualifications of the person(s) performing the procedures. Comparable information when qualified participation or supervision is required or appropriate.

   No surgical or invasive procedures will be used.

4. Provide the names, dosage, and actions of any drugs or other materials administered to the subjects and the qualifications of the person(s) administering the drugs.

   No drugs or other materials will be administrated to the subjects.

5. Detail all the physical, psychological, and social risks to which the subjects may be exposed.

   There are no physical, psychological, or social risks involved with participation in this study.

6. What steps will be taken to minimize risks to subjects?

   There are no physical, psychological, or social risks involved with participation in this study.

7. Describe the recruitment pool (community, institution, group) and the criteria used to select and exclude subjects.

   Subjects who are registered for the *Right from Birth* Series will be given the option to participate in this research.

8. List any vulnerable population whose members are included in this project (e.g., children under the age of 18; mentally impaired persons; pregnant women; prisoners; the aged.)

   None

9. Describe the process through which informed consent will be obtained. (Informed consent usually requires an oral explanation, discussion, and opportunity for questions before seeking consent form signature.)

   The procedures for this research will be explained to the volunteers and directors of the centers. Following the orientation, they will have opportunities to ask questions about the study. Written consent will be obtained.

10. (A) Is this study anonymous or confidential? (Anonymous means that the identity of the subjects is never linked to the data, directly, or indirectly through a code system.)

(B) If a confidential study, detail how will the privacy of the subjects and security of their data will be protected.

Data collected during this study will be confidential and will be kept in a locked office. Pseudonyms will be used in the presentation of findings.

APPENDIX B: CONSENT FORMS

Consent Form- For Director

1. **Study Title:** The Impact of Child Care Training on Caregiver Responsiveness

2. **Performance Sites:**

_____
Child Care Center

_____
Address

_____
City State Zip Code

_____
Owner/Director

_____
Work Phone

_____
Participating teacher

_____
Home Address of teacher

_____
Teachers' home phone

3. **Investigators:** The following investigators are available fro questions about this study, M-F, 8:30 a.m. – 3:00 p.m.

Carrie Ota, researcher
(512) 422-6157
Dr. Cynthia DiCarlo, Thesis Committee Chair
(225) 578-7005

4. **Purpose of the Study:** The purpose of this study is to evaluate the effects of child care training on teacher behavior in the classroom.

5. **Subject inclusion:** Employed infant/toddler child care providers in licensed centers who attend the training sessions.

6. **Number of Subjects:** 6-10

7. **Study Procedures:** The researcher will observe the teachers individually in their classroom during their regular work schedule. Their interactions with the children in their care will be recorded for a period of 10

minutes on 8-10 different occasions. The caregivers will attend one of three six hour infant and toddler training series – *Right from Birth*. The researchers will observer each caregiver one 3-5 more occasions following the training.

7. Benefits: Benefits to Louisiana Cooperative Extension include information to better plan and implement effective training workshops for child care staff.

8. Risks/Discomforts: There are no known risks for participation in this study. Data collected during this project will be confidential and will be kept in a locked office. Pseudonyms will be used in the presentation of findings.

10. Right to Refuse: Participation in the current study is voluntary. Subjects may withdraw at any time without penalty or loss of participation in this training or other Louisiana Cooperative Extension programs.

11. Privacy: Results of the study may be published or publicly presented for educational purposes, and no identifying information will be included in the publications. Subject identity will remain confidential unless disclosure is required by law.

12. Signatures:

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (225)578-8692. I agree to participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

Signature of Director/Owner Date

Consent Form- For Caregiver

1. **Study Title:** The Impact of Child Care Training on Caregiver Responsiveness

2. **Performance Sites:**

_____
Child Care Center

_____
Address

_____
City State Zip Code

_____
Owner/Director

_____
Work Phone

_____
Participating teacher

_____
Home Address of teacher

_____
Teachers' home phone

3. **Investigators:** The following investigators are available fro questions about this study, M-F, 8:30 a.m. – 3:00 p.m.

Carrie Ota, researcher
(512) 422-6157
Dr. Cynthia DiCarlo, Thesis Committee Chair
(225) 578-7005

4. **Purpose of the Study:** The purpose of this study is to evaluate the effects of child care training on teacher behavior in the classroom.

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6. **Number of Subjects:** 6-10

7. **Study Procedures:** The researcher will observe the teachers individually in their classroom during their regular work schedule. Their interactions with the children in their care will be recorded for a period of 10

	minutes on 8-10 different occasions. The caregivers will attend one of three six hour infant and toddler training series – *Right from Birth*. The researchers will observer each caregiver one 3-5 more occasions following the training.
7. Benefits:	Benefits to Louisiana Cooperative Extension include information to better plan and implement effective training workshops for child care staff.
8. Risks/Discomforts:	There are no known risks for participation in this study. Data collected during this project will be confidential and will be kept in a locked office. Pseudonyms will be used in the presentation of findings.
10. Right to Refuse:	Participation in the current study is voluntary. Subjects may withdraw at any time without penalty or loss of participation in this training or other Louisiana Cooperative Extension programs.
11. Privacy:	Results of the study may be published or publicly presented for educational purposes, and no identifying information will be included in the publications. Subject identity will remain confidential unless disclosure is required by law.

12. Signatures:

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (225)578-8692. I agree to participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

Signature of Caregiver Date

APPENDIX C: SOCIAL VALIDATION

Caregiver Behaviors	Positive	Negative	Active	Passive	Max / Count
Adult centered interaction/activity		6	5	1	92%
Allows infants to explore with their senses	6		2	4	83%
Brings a toy to the infant or infant to a toy	6		5	1	92%
Caregiver laughs, smiles, coo	6		5	1	92%
Celebrates a infants accomplishment	6		6		100%
Asks an infant a question	5		5		100%
Emotionally unaware of infants needs		6		6	100%
Encourages a skill	6		6		100%
Engages in back-and-forth play	6		6		100%
Engages in learning activities through play	6		6		100%
Expresses negative feelings with infant		6	6		100%
Expresses no emotion or animation		6		6	100%
Face-to -face interaction	5		5		100%
Gaze into face (young infants)	6		4	2	83%
Grabs, pushes infant		6	6		100%
Holds infant or touches tenderly	6		6		100%
Infant is in highchair, bouncy seat, crib while awake	1	4		5	90%
Infant alone and not involved in activity		5		5	100%
Infant engaged in activity alone	4	1		5	90%
Involved in activity with infant (peek-a-boo, or hide object)	6		6		100%
Makes declarative statement to infant	5		5		100%
No response to cues of infant		5	1	4	90%
Plays videos for infant		6		6	100%
Provides help to infant	6		6		100%
Provides physical care	6		6		100%
Reads or tells stories to infant	6		6		100%
Responds to infants social gestures	6		6		100%
Responds verbally to infants' vocalizations	6		6		100%
Responds when infants fusses, cries	6		6		100%
Restricts infants activity		6	5	1	92%
Says words in connection with their meaning	6		6		100%
Speaks to infant harshly (negative tone)		6	6		100%
Stops activity when child shows no interest	5	1	5	1	83%
Talks in "motherese"	6		6		100%
Talking to other adults in room	1	5	1	5	83%
Uses distraction and redirection for undesirable behaviors	6		6		100%
Uses facial gestures while talking and playing with infant	6		6		100%
				Average	96%
				Max	100%
				Min	83%

APPENDIX D: DATA SHEET

Name: _____ Date: _____

Observer: _____

	:00				:15				:30				:45			
	P		N		P		N		P		N		P		N	
1	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
2	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
3	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
4	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
5	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
6	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
7	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
8	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
9	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	
	P		N		P		N		P		N		P		N	
10	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa	A	Pa
	NR		NR		NR		NR		NR		NR		NR		NR	

VITA

Carrie L. Ota was born to James and Becky Waterson in Sturgis, South Dakota. She is the second of five children. She spent many of her teenage evenings babysitting siblings and neighborhood kids. Carrie is the wife of Lance Ota and the mother of a wonderful boy – Jayden Ichiro.

In 1993, she graduated high school in Wright, Wyoming, and left home to go to Montana State University – Bozeman. She earned her bachelor's degree in health and human development – child development. During her tenure in college, she continued to work in child care.

After graduating with her bachelor's degree, she pursued an opportunity with a child care center in Austin, Texas. She worked as a lead teacher and was promoted into management. Three years later, pursuing professional goals, she went to work for a non-profit organization with aims at improving quality, accessibility, and affordability of child care in central Texas. Taking on the main responsibility of training prospective child care workers, Carrie realized her passion was inspiring others to recognize the influence adults have as childcare professionals.

In January of 2005, she began classes at Louisiana State University in Baton Rouge. Her goal was a master's degree in human ecology – early childhood education.